UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,661	07/31/2003	Stephane Page	004501-734	7931

21839 7590 05/26/2005

BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
KEEHAN, CHRISTOPHER M	
ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,661	PAGE ET AL.	
	Examiner	Art Unit	
	Christopher M. Keehan	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *12 and 13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9,11,14,15 and 19* is/are rejected.

7)☒ Claim(s) *6-8,10,16-18 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 1-5, 11, 14, 15 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Quaggia (6,333,462 B1). Regarding claims 1-3, Quaggia discloses a solid insulator with an insulator body which is supporting at least one conductor that is able to carry high voltage, and that is arranged in an outer enclosure (Figure 2), wherein the insulator body comprises a fiber-reinforced polymer, more specifically a fiber-reinforced epoxy material (col.7, lines 61-65).

Regarding claim 4, Quaggia discloses wherein the insulator body comprises conductive fibers (col.8, lines 24-38).

Regarding claim 5, Quaggia does not appear to specifically disclose the orientation of the fibers in the insulator body such that quasi-isotropic mechanical properties of the insulator body is achieved. On page 6, lines 1 and 2 of the specification, applicant has defined quasi-isotropic properties as "in-plane properties identical in all directions." Quaggia discloses a coherent insulator body that is composed of the same material as that of applicant (as set forth above). It is not clear why the insulator body of Quaggia would not also exhibit quasi-isotropic properties. Therefore, it appears the quasi-isotropic property as claimed by applicant is inherently disclosed by the insulator body of Quaggia because the insulator body of Quaggia is

composed of the same material as that claimed by applicant, and the same material would have yielded an insulator body with the same inherent properties, absent evidence to the contrary.

Regarding claim 11, Quaggia discloses wherein the fiber backbone in the insulator body comprises a preform, which comprises a three-dimensional woven fiber structure (col.13, lines 12-20). It is the examiner's position that the fiber layer of Quaggia is a preform, as they are not formed in situ.

Regarding claim 14, Quaggia discloses a disc shaped insulator body (Figure 2), as it encloses the circular conductor, it would have to be in a disc shape.

Regarding claim 15, the same reasoning as set forth in claim 5 above also applies to claim 14, as the claimed subject matter is essentially the same.

Regarding claim 19, the same reasoning as set forth above for claim 11 also applies to claim 19, as the claimed subject matter is essentially the same.

Claims 1-3, 5, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Luxa et al. (3,988,645). Regarding claims 1-3, Luxa et al. disclose a solid insulator used in a gas-insulated high voltage installation comprising an insulator body which is supporting at least one conductor that is carrying high voltage (Abstract), that is to be arranged within an outer enclosure of the gas-insulated encapsulated high voltage installation, wherein the insulator body comprises a fiber-reinforced polymer, more specifically a fiber-reinforced epoxy material (col.2, lines 37-53).

Regarding claim 5, Luxa et al. do not appear to specifically disclose the orientation of the fibers in the insulator body such that quasi-isotropic mechanical properties of the insulator body is achieved. On page 6, lines 1 and 2 of the specification, applicant has defined quasi-isotropic properties as "in-plane properties identical in all directions." Luxa et al. disclose a coherent insulator body that is composed of the same material as that of applicant (as set forth above). It is not clear why the insulator body of Luxa et al. would not also exhibit quasi-isotropic properties. Therefore, it appears the quasi-isotropic property as claimed by applicant is inherently disclosed by the insulator body of Luxa et al. because the insulator body of Luxa et al. is composed of the same material as that claimed by applicant, and the same material would have yielded an insulator body with the same inherent properties, absent evidence to the contrary.

Regarding claim 11, Luxa et al. disclose wherein the fiber backbone in the insulator body comprises a preform, which comprises a three-dimensional woven fiber structure (col.2, lines 41-44). It is the examiner's position that the fiber layer of Luxa et al. is a preform, as they are not formed in situ.

Claim Rejections - 35 USC § 103

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quaggia (6,333,462 B1). Quaggia, as applied above, are as set forth and incorporated herein. Quaggia discloses making a winding with the insulating fibers (col.13, lines 16-20), which would constitute unidirectional fibers as claimed. Quaggia does not appear to

teach or disclose stacked layers of the epoxy fiber layer. However, it has been held that the mere duplication of parts is unpatentable. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the stacked layers to be connected physically or chemically, as unconnected layers would create an insulator body that is not coherent.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luxa et al. (3,988,645). Luxa et al., as applied above, are as set forth and incorporated herein. Luxa et al. disclose making a winding with the insulating fibers (col.13, lines 16-20), which would constitute unidirectional fibers as claimed. Luxa et al. do not appear to teach or disclose stacked layers of the epoxy fiber layer. However, it has been held that the mere duplication of parts is unpatentable. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the stacked layers to be connected physically or chemically, as unconnected layers would create an insulator body that is not coherent.

Claims 1-3, 5, 9, 14, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz et al. (5,753,864) in view of Quaggia (6,333,462 B1). Quaggia, as applied above, is as set forth and incorporated herein. Regarding claims 1-3 and 14, Schulz et al. disclose a solid insulator used in a gas-insulated high voltage installation comprising an insulator body in a disc shape which is supporting at least one conductor that is carrying high voltage, that is to be arranged within an outer enclosure

of the gas-insulated encapsulated high voltage installation, wherein the insulator body comprises a cured casting resin (col.1, lines 45-54). Schulz et al. do not appear to specifically disclose a fiber-reinforced polymer. Quaggia discloses an insulator body with fiber-reinforced epoxy (col.7, lines 61-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a fiber-reinforced epoxy as taught by Quaggia in the insulator body of Schulz et al. because Quaggia teaches that using fiber-reinforced epoxy in the insulator body produces a structure made of a unitary piece, resulting in a more efficient product.

Regarding claims 5 and 15, Quaggia does not appear to specifically disclose the orientation of the fibers in the insulator body such that quasi-isotropic mechanical properties of the insulator body is achieved. On page 6, lines 1 and 2 of the specification, applicant has defined quasi-isotropic properties as "in-plane properties identical in all directions." Quaggia discloses a coherent insulator body that is composed of the same material as that of applicant (as set forth above). It is not clear why the insulator body of Quaggia would not also exhibit quasi-isotropic properties. Therefore, it appears the quasi-isotropic property as claimed by applicant is inherently disclosed by the insulator body of Quaggia because the insulator body of Quaggia is composed of the same material as that claimed by applicant, and the same material would have yielded an insulator body with the same inherent properties, absent evidence to the contrary.

Regarding claims 9 and 19, Quaggia discloses making a winding with the insulating fibers (col.13, lines 16-20), which would constitute unidirectional fibers as

claimed. Quaggia does not appear to teach or disclose stacked layers of the epoxy fiber layer. However, it has been held that the mere duplication of parts is unpatentable. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the stacked layers to be connected physically or chemically, as unconnected layers would create an insulator body that is not coherent.

Response to Arguments

Applicant's arguments filed 3/25/05 have been fully considered but they are not persuasive. Applicant has argued that Quaggia does not teach or disclose an insulator body arranged in an outer enclosure of a gas-insulated encapsulated high voltage installation. However, the claim language, in claim 1, "for use in a gas-insulated encapsulated high voltage installation," and "is to be arranged within an outer enclosure" is future intended use of the insulator. There is no positive recitation of a gas-insulated encapsulated high voltage installation, as the claim is only drawn to a solid insulator, which Quaggia appears to still meet.

Allowable Subject Matter

Claims 6-8, 10, 16-18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Quaggia does not teach or disclose any specific orientation of the fibers in the insulator body. The prior art of

record did not appear to teach or disclose a solid insulator wherein the orientation of the fibers in the insulator body are arranged as claimed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (571) 272-1087. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Keehan

DAVID J. BUTTNER
PRIMARY EXAMINER

May 23, 2005